FIG. 1

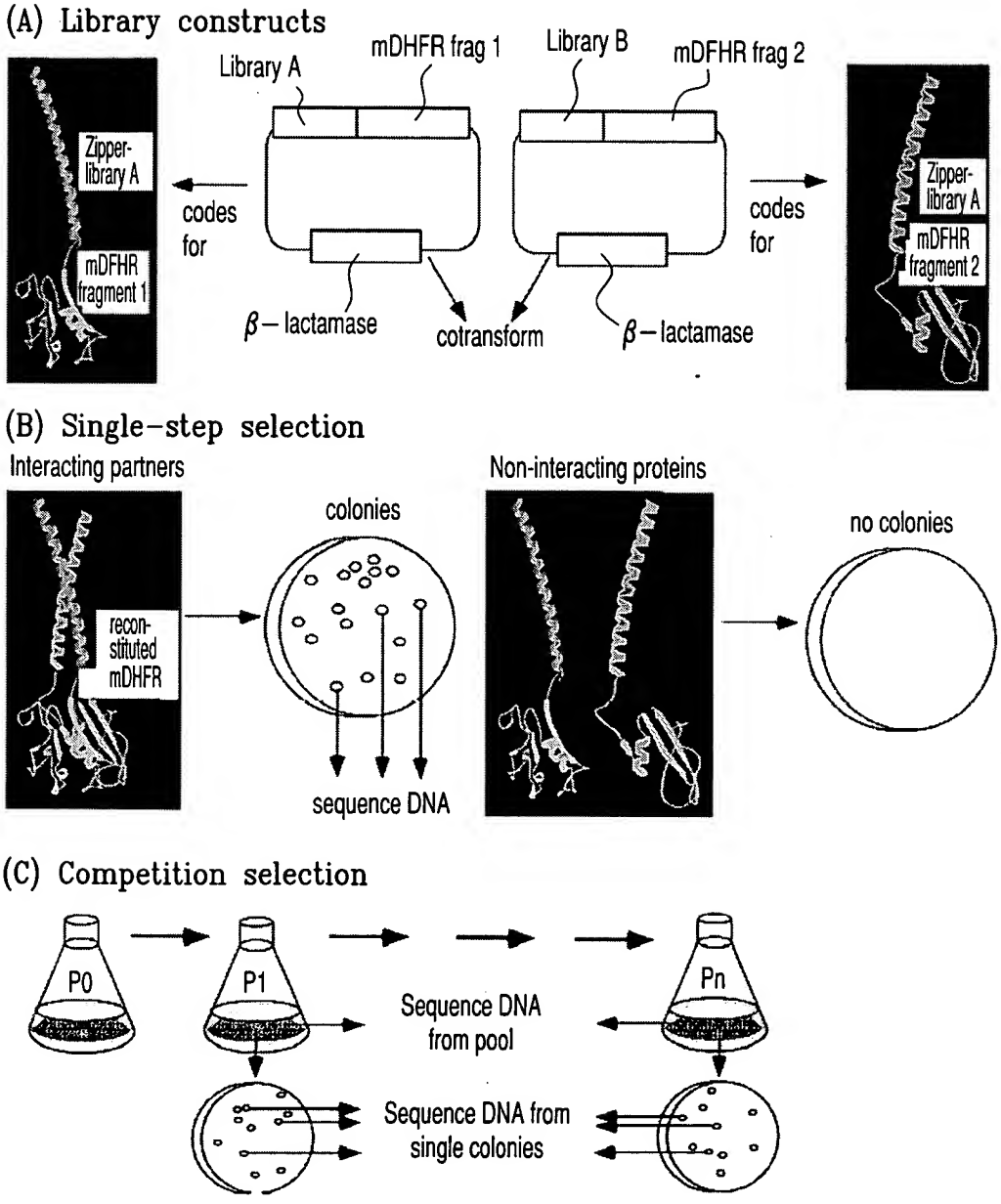
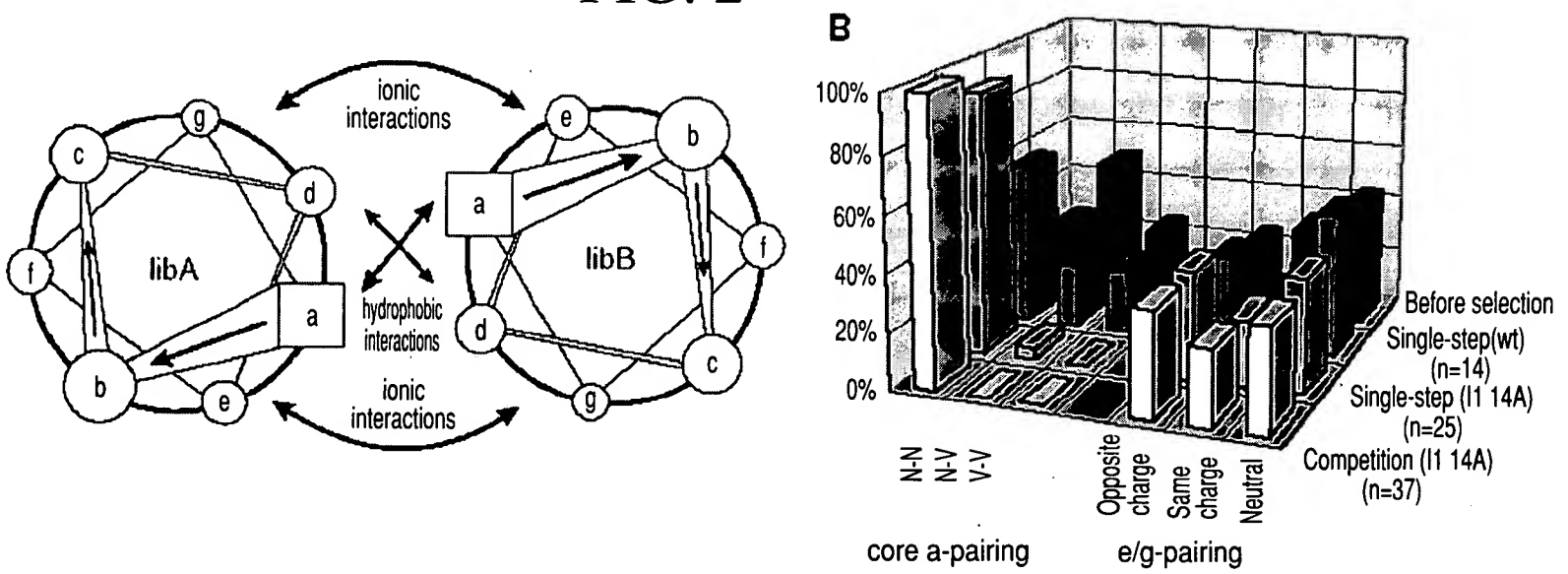
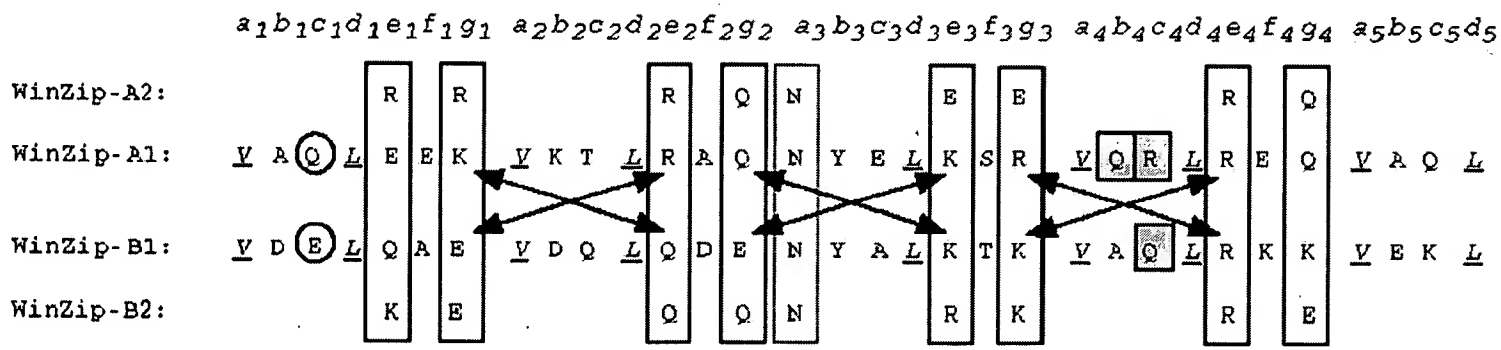

(A) Library constructs
Library A
mDHFR frag 1
Library B
mDFHR frag 2
Zipper-library A
mDFHR fragment 1
codes for
codes for
β – lactamase
cotransform
β – lactamase
Zipper-library A
mDFHR fragment 2
(B) Single-step selection
Interacting partners
Non-interacting proteins
colonies
no colonies
recon-stituted mDHFR
sequence DNA
(C) Competition selection
P0
P1
Pn
Sequence DNA from pool
Sequence DNA from single colonies

FIG. 2


A
ionic interactions
libA
libB
hydrophobic interactions
ionic interactions
B
100%
80%
60%
40%
20%
0%
N-N
N-V
V-V
Opposite charge
Same charge
Neutral
Before selection
Single-step(wt) (n=14)
Single-step (I1 14A) (n=25)
Competition (I1 14A) (n=37)
core a-pairing
e/g-pairing

C


a1b1c1d1e1f1g1 a2b2c2d2e2f2g2 a3b3c3d3e3f3g3 a4b4c4d4e4f4g4 a5b5c5d5
WinZip-A2:
WinZip-A1:
WinZip-B1:
WinZip-B2:

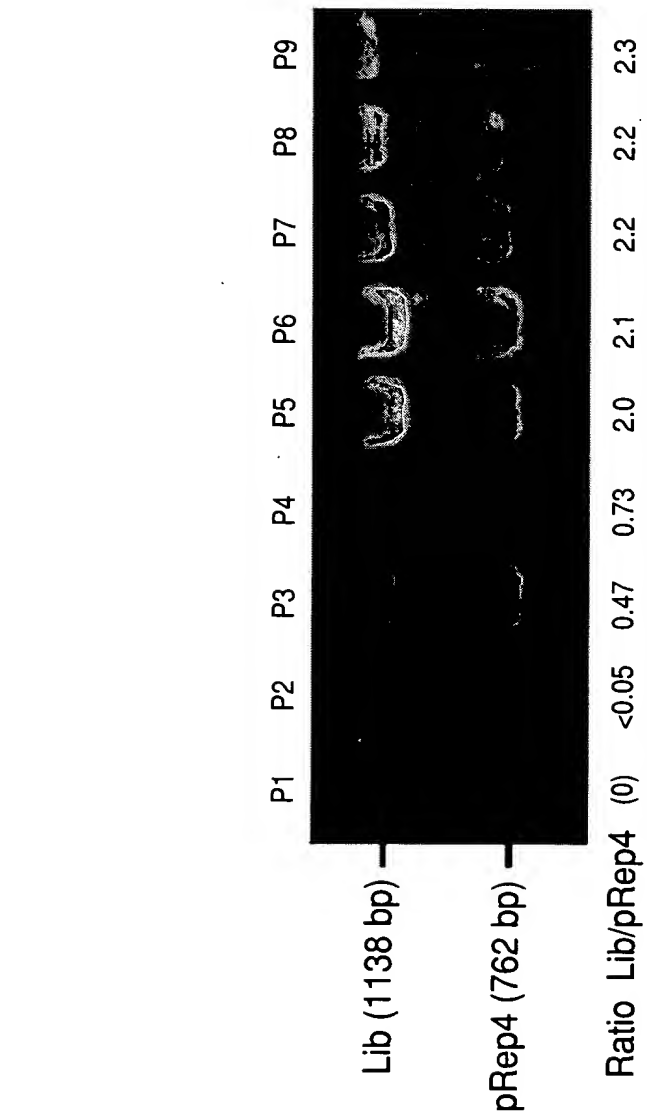

P1
P2
P3
P4
P5
P6
P7
P8
P9
Lib (1138 bp)
pRep4 (762 bp)
Ratio Lib/pRep4 (0) <0.05 0.47 0.73 2.0 2.1 2.2 2.2 2.3

FIG. 3

FIG. 4

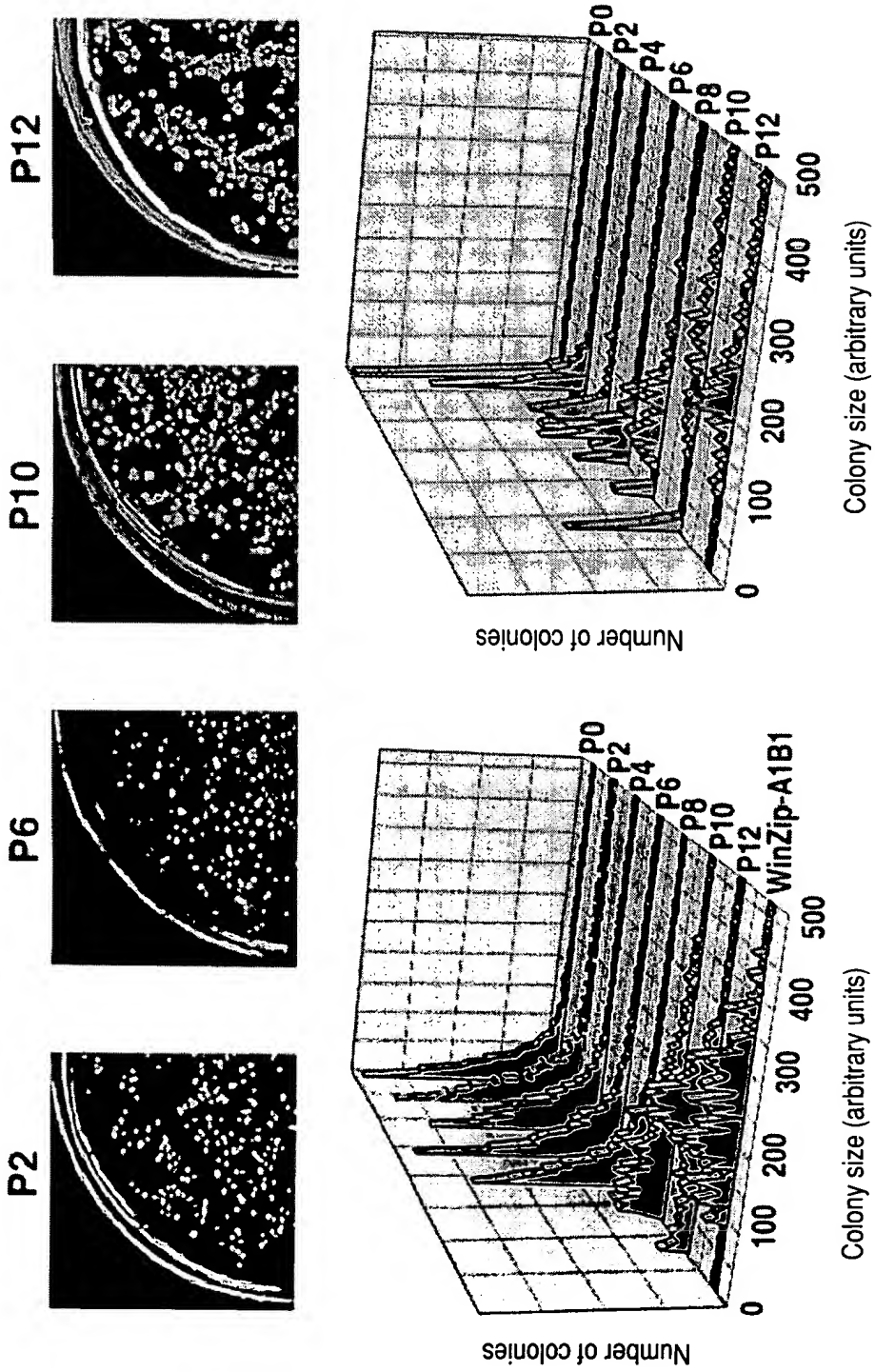
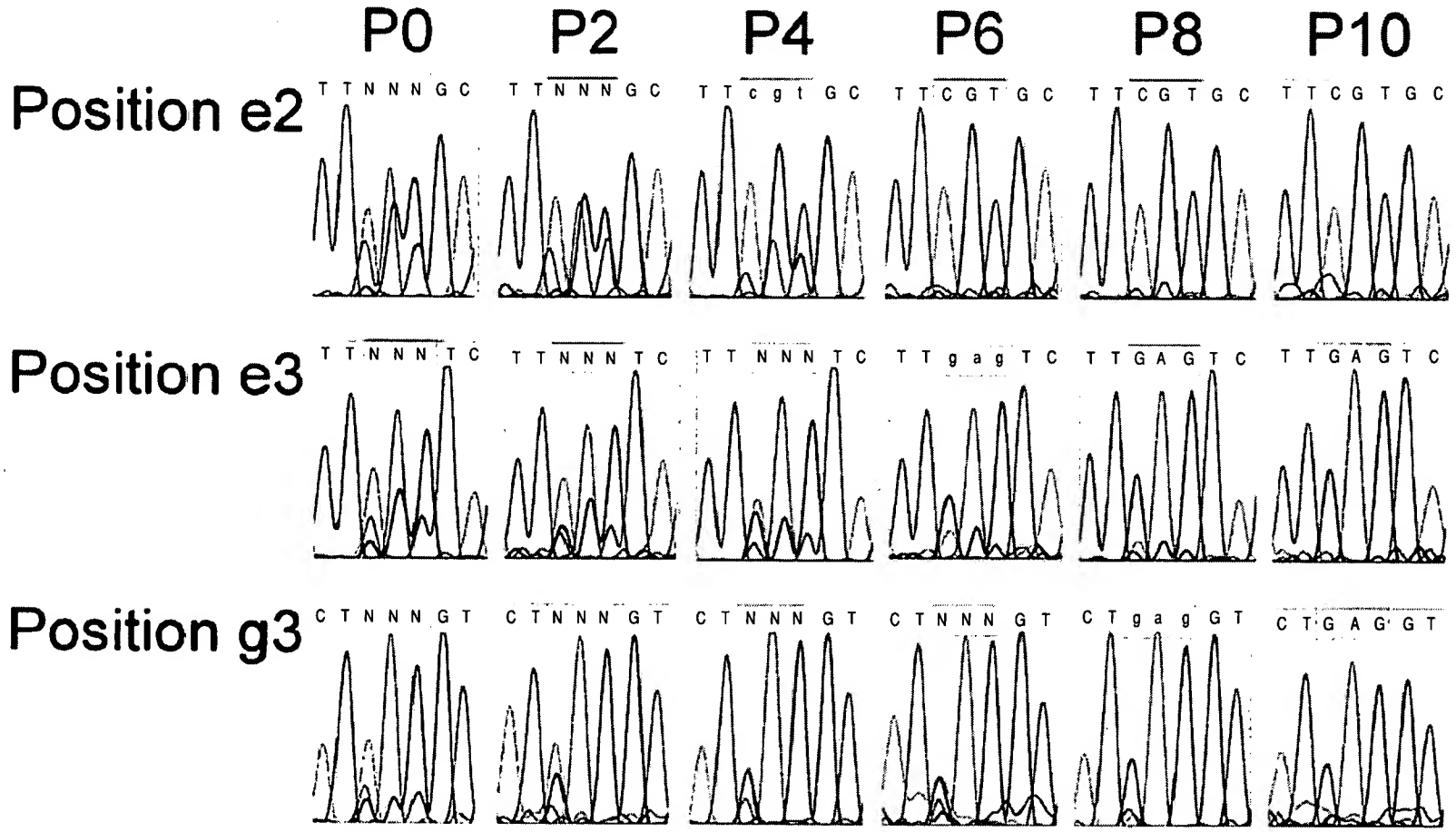

P2
P6
P10
P12
P0
P2
P4
P6
P8
P10
P12
WinZip-A1B1
0
100
200
300
400
500
Number of colonies
Colony size (arbitrary units)

FIG. 5


P0
P2
P4
P6
P8
P10
Position e2
T T N N N G C
T T N N N G C
T T c g t G C
T T C G T G C
T T C G T G C
T T C G T G C
Position e3
T T N N N T C
T T N N N T C
T T N N N T C
T T g a g T C
T T G A G T C
T T G A G T C
Position g3
C T N N N G T
C T N N N G T
C T N N N G T
C T N N N G T
C T g a g G T
C T G A G G T